

Application No.: 10/758,112
Art Unit 1792

Attorney Docket No. 0630-1935P
Reply to Office Action dated May 30, 2008
Page 8

REMARKS

Applicants thank the Examiner for the very thorough consideration given the present application.

Claims 1 and 3-21, 23 and 25-27 are now present in this application. By the present amendment, claims 1 and 23 have been amended, claims 22 and 24 have been cancelled without prejudice or disclaimer, and claims 26 and 27 have been added. Claims 1, 23, 26 and 27 are independent. No new matter is involved.

Reconsideration of this application, as amended, is respectfully requested.

Information Disclosure Citation

Applicants request that the Examiner consider all of the references supplied with the Information Disclosure Statement (IDS) filed on August 6, 2008, and provide Applicants with an initialed copy of the Form PTO/SB/08 filed therewith in the next Office Action.

Entry of Amendments

Applicants respectfully submit that entry of these amendments is proper because the outstanding Office Action was prematurely made final. The outstanding Office Action fails to comply with the explicit requirements of M.P.E.P. § 707.07(f) for reasons stated in detail below, and thus, its finality must be withdrawn and the amendments entered as a matter of right.

JTE/RJW:mmu:jmc:slb

Application No.: 10/758,112
Art Unit 1792

Attorney Docket No. 0630-1935P
Reply to Office Action dated May 30, 2008
Page 9

Rejections under 35 U.S.C. § 103

Claims 1, 3-6 and 22-25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,097,556 to Engel et al. ("Engel"). This rejection is respectfully traversed.

During patent examination, the PTO bears the initial burden of presenting a *prima facie* case of unpatentability. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). If the PTO fails to meet this burden, then the Applicants are entitled to the patent. Only when a *prima facie* case is made, the burden shifts to the Applicants to come forward to rebut such a case.

Claim 1 positively recites a washing machine having a combination of features, including (1) an outer tub disposed in a casing for receiving washing water therein; (2) an inner tub rotatably disposed in the outer tub for receiving laundry therein; and (3) a plasma discharge unit for performing a plasma discharge on the washing water, wherein the plasma discharge unit includes: (a) an inflow passage connected to the outer tub for introducing washing water inside the outer tub; (b) a discharge box for receiving washing water introduced through the inflow passage and having a space where a plasma discharge is performed; (c) an electrode which discharges the plasma inside of the discharge box; and (d) a high voltage generator electrically connected to the electrode for applying a voltage to the electrode.

Engel fails to disclose this claimed combination of features. Engel's washing machine 10 includes no plasma discharge unit whatsoever. Engel discloses a completely separate ozone generating system, not disclosed as a plasma discharge unit, as claimed, for use with conventional washing machines 10, and this is not what is recited in the present application. The claimed invention recites a washing machine that includes a plasma discharge unit for

JTE/RJW:mmm:jmc:sfb

Application No.: 10/758,112
Art Unit 1792

Attorney Docket No. 0630-1935P
Reply to Office Action dated May 30, 2008
Page 10

performing a plasma discharge on the washing water. Engel has no such disclosure.

In an attempt to remedy the shortcomings of Engel, the Office Action first resorts to an improper *per se* rule of obviousness. The Office Action relies on *In re Harza*, 124 USPQ 378 (CCPA 1960) to improperly conclude that it is well settled that the mere duplication of parts has no patentable significance unless a new and unexpected result is produced.

The Examiner argues, in reliance upon *Harza*, that to add another filter at the washer inflow passage to existing outflow filters 28 and 30 would be a mere duplication of parts and, therefore, would have been obvious to one of ordinary skill in the art.

Applicants respectfully submit that the decision in *Harza* is limited to its facts. The court in *Harza* stated that the only difference between the reference's structure for sealing concrete and that of *Harza*'s claim 1 was that the reference's structure had only a single rib (i.e., arm) on each side of a web, whereas the claim required a plurality of such ribs. *See Harza*, 274 F.2d at 671, 124 USPQ at 380. The court stated that "[i]t is well settled that the mere duplication of parts has no patentable significance unless a new and unexpected result is produced, and we are of the opinion that such is not the case here." *Id.*

The Examiner does not compare the facts in *Harza* with those in the present case or explain why, based upon this comparison, the legal conclusion in the present case should be the same as that in *Harza*. Instead, the Examiner relies upon *Harza* as establishing a *per se* rule that duplication of parts is obvious. As stated by the Federal Circuit in *In re Ochiai*, 71 F.3d 1565, 1572, 37 USPQ2d 1127, 1133 (Fed. Cir. 1995), "reliance on *per se* rules of obviousness is legally incorrect and must cease." For a *prima facie* case of obviousness to be established, the teachings from the prior art itself must appear to have suggested the claimed subject matter to one of

JTE/RJW:mmi:jmc:slb

Application No.: 10/758,112
Art Unit 1792

Attorney Docket No. 0630-1935P
Reply to Office Action dated May 30, 2008
Page 11

ordinary skill in the art. *See In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976). The mere fact that the prior art could be modified as proposed by the Examiner is not sufficient to establish a *prima facie* case of obviousness. *See In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). The Examiner must explain why the prior art would have suggested to one of ordinary skill in the art the desirability of the modification. *See Fritch*, 972 F.2d at 1266, 23 USPQ2d at 1783-84.

The outstanding Office Action does not respond to these specific arguments as required by M.P.E.P. § 707.07(f) and, as such, the finality of this Office Action must be withdrawn and the amendments entered as a matter of right.

With respect to claim 3, Applicants respectfully submit that one of ordinary skill in the art would not have proper incentive to add a filter to Engel's washer input when what Engel is introducing into the washing machine is ozonated water. While Engel needs filters 28 and 30 to recirculate the water in the holding tank located separate and apart from the washing machines, to continuously clean and agitate the water and mix ozone in the water in the holding tank, once the water is drawn out of the holding tank, there is no further need to add yet another filter at a washing machine inflow passage because the ozonated water is already double filter clean and the extra cleaning agent, i.e., ozone, mixed in and ready to clean the laundry. The Examiner has not explained why one of ordinary skill in the art would go to the trouble and expense of adding this extra filter when Engel fails to disclose doing so, and in view of the previous double filtering and inclusion of the additional cleaning agent, i.e., ozone, is already therein.

The Office Action also speculates that it would be obvious to combine Engel's electrodes and high voltage generator in the washing machine of Engel such that they form a single piece

JTE/RJW:mmm:jmc:slb

Application No.: 10/758,112
Art Unit 1792

Attorney Docket No. 0630-1935P
Reply to Office Action dated May 30, 2008
Page 12

and to form the electrodes/generator within the washing tub.

The Office Action provides no objective factual evidence that one of ordinary skill in the art would have any incentive to combine the large external ozonating system of Engel inside of one of Engel's washing machines 10, especially when the drawings indicate that the ozonating unit and system is larger than either of the washing machines 10.

All that the Office Action states in this regard is that combining two parts into one makes the apparatus more compact. However, this conclusion is not supported by logic. While combining some items into one may result in a smaller combination, that conclusion does not follow from the premise on which it is based. For example, combining a car and a trailer requires a hitch, which often results in the combination of a car and a trailer that is longer than the individual lengths of the car and the trailer.

The Office Action continues by speculating that it would be obvious to make integral the electrodes/generator of Engel with Engel's washing machine "since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together only involves ordinary skill in the art," citing *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

Applicants respectfully submit that the facts of this case differ significantly from the facts of this application and from the claimed invention. The *Detroit Stove Works* decision dealt with a stove which had a flange, which may be either cast on a fire pot in a single piece or made separate from the fire pot and riveted or otherwise fastened to it. A cast iron stove with a flange is entirely different from a washing machine with separate operating subunits, the latter not being able to be cast in a single unitary piece.

Moreover, Applicants respectfully direct the Examiner's attention to what they believe is

JTE/RJW:mmi:jmc:slb

Application No.: 10/758,112
Art Unit 1792

Attorney Docket No. 0630-1935P
Reply to Office Action dated May 30, 2008
Page 13

a more relevant decision, which cites, and distinguishes, the *Detroit Stove Works* decision.

Reference is made to the decision in *In re Application of Elmer E. Wickersham*, 24 USPQ 368, (CCPA 1935), which indicated that making in one integral piece what was previously made in two pieces fastened together does not constitute invention, but to do so may constitute invention when it also involves elimination of part of a machine without eliminating its function. The patent application involved in that appeal concerned combining a threshing machine housing and the main frame into a unitary and substantially rigid shell-like structure, the heavy weight of the main frame of the prior art structures having been eliminated without the sacrifice of rigidity and strength. The Appellant argued that, by eliminating the multiplicity of beams, struts and girders of the old art and by substituting his new structure with fewer parts, he has contributed to the art enormously in economy of production.

The Court determined that this appeal falls under the principle that: "A reconstruction of a machine, so that a less number of parts will perform all the functions of the greater, may be invention of a high order." The court analogized to a decision regarding a patent with respect to which the appellant discovered that heavy pressure from a mechanically applied device was not a necessary or helpful factor in sealing envelopes. The patentee omitted the presser plate device, so that the new machine, with the self-sealing stack adjacent to the moistening device, performed with a less number of parts all the functions of the old model machines. He put the whole sealing job upon the stack; whereas before it had been begun in the machine and completed in the stack. The patent was held valid, and in the decision, the court said: "... it cannot be questioned that simplicity is the result of the inventive faculty when it succeeds in dispensing with parts which have long been in use, and which were found to be cumbersome and unnecessary. . ."

JTE/RJW:mmi:jmc:slb

Application No.: 10/758,112
Art Unit 1792

Attorney Docket No. 0630-1935P
Reply to Office Action dated May 30, 2008
Page 14

Applicants respectfully submit that the facts of the *Wickersham* decision are more on point than are the facts on the *Detroit Stove Works* decision. Applicants have provided a plasma discharge unit in a washing machine to clean clothes, which is an accomplishment not contemplated by Engel in any way whatsoever and, in doing so, have eliminated the huge external system of Engel. It would appear that this is evidence of non-obviousness of the claimed invention with respect to Engel.

The outstanding Office Action does not comment on these detailed arguments regarding the inapplicability of the case law relied on in the rejection and simply repeats its reliance on that case law. Not only is this non-persuasive, it also fails to comply with the requirements of M.P.E.P. § 707.07(f) which require the Examiner to respond in detail to Applicants' detailed arguments, which has not been done. For this reason, the finality of the outstanding Office Action is improper, must be withdrawn, and the amendments entered as a matter of right.

Additionally, Engel just discloses the laundry waste water treatment apparatus having the ozonators 24 which inject ozone into the water in holding tank 14 at a controlled rate, but does not teach or hint at the washing machine having a specific plasma discharge unit including an inflow passage, a discharge box, an electrode and a high voltage generator, as recited in claim 1. In this regard, Engel does not disclose that its ozonators are plasma discharge units, either explicitly or inherently (i.e., not just possibly and not just probably, but necessarily).

There is no response to this lack of inherent disclosure argument, again in contravention of the requirement to provide such a response in M.P.E.P. § 707.07(f).

Also, the assertion in the rejection that Engel's holding tank 14 has ozonators formed therewith by electrodes 56 with a high voltage corona generator attached is not supported by

JTE/RJW:mmi:jmc:slb

Application No.: 10/758,112
Art Unit 1792

Attorney Docket No. 0630-1935P
Reply to Office Action dated May 30, 2008
Page 15

Engel's disclosure, which indicates that the ozonators 24 and the holding tank 14 are separate elements which are distanced from each other and are connected by the ozone supply line 32.

In other words, the Office Action would have us believe that a mere reference to the *Detroit Stove Works* decision will automatically result in a complete redesign of Engel's large scale ozonator-holding tank, recirculation system external to Engel's washing machines to achieve the claimed washing machine that includes the claimed plasma discharge unit. Applicants respectfully disagree for the reasons set forth above.

Instead of responding to these arguments on the merits, and trying to establish a *prima facie* case of obviousness of the claimed invention, the outstanding Office Action improperly tries to shift the burden of making a *prima facie* case of unpatentability of the invention from the Office to Applicants having to establish that their invention patentably defines over the applied art despite the fact that the Office Action fails to make out a *prima facie* case of unpatentability and fails to respond in detail to Applicants' argument in this regard.

Furthermore, claim 1, as amended, positively recites a combination of features including an electrode which discharges the plasma inside of the discharge box, where the discharge box is recited for receiving washing water introduced through the inflow passage inside of the discharge box, which is a feature completely missing from Engel. A similar feature is recited in claim 23, as amended.

In reply to the Examiner's arguments on page 2 of the outstanding Office Action, Applicants did not merely argue that the ozone generating system of Engel and the claimed discharge unit are called different things. Applicants argued that Engel does not include a discharge unit for performing a plasma discharge on the washing water and pointed out that

JTE/RJW:mmm:jmc:slb

Application No.: 10/758,112
Art Unit 1792

Attorney Docket No. 0630-1935P
Reply to Office Action dated May 30, 2008
Page 16

Engel merely discloses a separate ozone generator that is not disclosed as a plasma generator explicitly or inherently (i.e., not just possibly and not just probably, but necessarily). The Examiner is improperly trying to avoid its burden of providing evidence in support of its conclusion that Engel discloses a plasma discharge unit, but provides nothing more than improper speculation in this regard.

With respect to the arguments on page 3 of the outstanding Office Action regarding employing a duplicate filter, the Office Action does not rebut Applicants' specific arguments in this regard but merely ignores them and just restates the Examiner's previous position.

With respect to the arguments on pages 3 and 4 of the outstanding Office Action, Applicants respectfully submit that their analogy is apt because a stated object of the invention is to provide a washing machine with a plasma discharge unit located in the washing machine, and the claimed invention recited in claim 1 calls for the plasma discharge unit to be disposed between the casing and the outer tub. This distinctly differs from Engel, which is a device that simply is not constructed in this way, and Engel contains no disclosure that would motivate a skilled worker to modify Engel to include its ozone generator to fit inside of its washing machine.

Applicants also note that, in the claimed invention, washing water may be mixed with electrons from the electrode and from the ozone, and such electrons will combine with positive hydrogen ions in the water to generate negative OH ions in the water to neutralize detergent in the washing water. Moreover, UV light generated by the plasma discharge can change detergent in the washing water to harmless material. In this regard, reference is made to Applicants' specification, page 15, lines 3-8.

JTE/RJW:mmm:jmc:slb

Application No.: 10/758,112
Art Unit 1792

Attorney Docket No. 0630-1935P
Reply to Office Action dated May 30, 2008
Page 17

Engel just discloses that the laundry wastewater treatment apparatus has ozonators 24 which simply inject ozone into the water in holding tank 14 at a controlled rate. Engel has no disclosure of a washing machine which discharges a plasma, which includes electrons or UV light, into the wash water.

Moreover, even if, solely for the sake of argument, Engel did create a plasma discharge in ozonator 24, any electrons created therein could not reach holding tank 14 due to their combination with ambient air, and any UV light generated would be blocked by the walls of ozonator 24.

Accordingly, the Office Action fails to make out a *prima facie* case of obviousness of the claimed invention.

Thus, reconsideration and withdrawal of this rejection of claims 1, 3-6 and 22-25 are respectfully requested.

Claims 7-10, 12, 13 and 15-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Engel in view of U.S. Patent 3,954,586 to Lowther. This rejection is respectfully traversed.

Engel does not render the claimed invention obvious for the reasons discussed above. Moreover, Lowther is not applied to remedy the afore-noted deficiencies of Engel with respect to the claimed invention. So, no matter how Lowther is applied, the resulting modified version of Engel will not disclose, suggest, or otherwise render obvious the claimed invention.

Additionally, Lowther is directed to "commercial large scale corona generators" (col. 1, lines 21-22). The Office Action fails to provide objective factual evidence that one of ordinary skill in the art would turn to a commercial large scale ozone generator to modify Engel's

JTE/RJW:mmm;jmc:slb

Application No.: 10/758,112
Art Unit 1792

Attorney Docket No. 0630-1935P
Reply to Office Action dated May 30, 2008
Page 18

Laundromat-sized corona generator and, even further, to scale the entire system down to fit inside of a washing machine, as claimed.

Accordingly, the Office Action fails to make out a *prima facie* case of obviousness of the claimed invention.

Reconsideration and withdrawal of this rejection of claims 7-10, 12, 13 and 15-20 are respectfully requested.

Claims 11 and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Engel in view of Lowther, and further in view of U.S. Patent 5,768,730 to Matsumoto et al. ("Matsumoto"). This rejection is respectfully traversed.

Engel does not render the claimed invention obvious for the reasons discussed above. Moreover, Lowther is not applied to remedy the afore-noted deficiencies of Engel with respect to the claimed invention. So, no matter how Lowther is applied, the resulting modified version of Engel will not disclose, suggest, or otherwise render obvious the claimed invention.

Additionally, Lowther is directed to "commercial large scale corona generators" (col. 1, lines 21-22). The Office Action fails to provide objective factual evidence that one of ordinary skill in the art would turn to a commercial large scale ozone generator to modify Engel's Laundromat-sized corona generator and, even further, to scale the entire system down to fit inside of a washing machine, as claimed.

Furthermore, even if one of ordinary skill in the art were properly motivated to turn to Matsumoto to provide a contamination indicator in the Engel-Lowther reference combination, the resulting modified version of Engel would still not disclose, suggest, or otherwise render obvious, the claimed invention.

JTE/RJW:mmm:jmc:slb

Application No.: 10/758,112
Art Unit 1792

Attorney Docket No. 0630-1935P
Reply to Office Action dated May 30, 2008
Page 19

Accordingly, the Office Action fails to make out a *prima facie* case of obviousness of the claimed invention.

Reconsideration and withdrawal of this rejection of claims 11 and 21 are respectfully requested.

Claim 14 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Engel and Lowther and further in view of U.S. Patent 2,732,338 to Moody. This rejection is respectfully traversed.

Engel does not render the claimed invention obvious for the reasons discussed above. Moreover, Lowther is not applied to remedy the afore-noted deficiencies of Engel with respect to the claimed invention. So, no matter how Lowther is applied, the resulting modified version of Engel will not disclose, suggest, or otherwise render obvious the claimed invention.

Additionally, Lowther is directed to "commercial large scale corona generators" (col. 1, lines 21-22). The Office Action fails to provide objective factual evidence that one of ordinary skill in the art would turn to a commercial large scale ozone generator to modify Engel's laundromat-sized corona generator and, even further, to scale the entire system down to fit inside of a washing machine, as claimed.

Furthermore, even if one of ordinary skill in the art were properly motivated to turn to Moody to provide a contamination indicator in the Engel-Lowther reference combination, the resulting modified version of Engel would still not disclose, suggest, or otherwise render obvious, the claimed invention.

Accordingly, the Office Action fails to make out a *prima facie* case of obviousness of the claimed invention.

JTE/RJW:mmi:jmc:slb

Application No.: 10/758,112
Art Unit 1792

Attorney Docket No. 0630-1935P
Reply to Office Action dated May 30, 2008
Page 20

Reconsideration and withdrawal of this rejection of claim 14 are respectfully requested.

New Claims

New claim 26 recites a washing machine comprising: an outer tub disposed in a casing for receiving washing water therein; an inner tub rotatably disposed in the outer tub for receiving laundry therein; and a plasma discharge unit for performing a plasma discharge directly on the washing water.

New claim 27 recites a washing machine comprising: an outer tub disposed in a casing for receiving washing water therein; an inner tub rotatably disposed in the outer tub for receiving laundry therein; and a plasma discharge unit for performing a plasma discharge directly on the washing water, wherein the plasma discharge unit is disposed between the casing and the outer tub.

Engel, the primary reference applied in the afore-mentioned rejections, discloses ozonators 24 which are merely connected with the resupply line 17 and the water supply line 12 by the ozone supply line 32 but are not disposed at the resupply line 17 and the water supply line 12, i.e., Engel does not teach or suggest a plasma discharge unit for performing a plasma discharge directly on the washing water, nor does Engel disclose such a feature wherein the plasma discharge unit is disposed between the casing and the outer tub.

Accordingly, Applicants respectfully submit that the invention as recited in new claims 26 and 27 patentably defines over the applied art.

JTE/RJW:mmi:jmc:slb

Application No.: 10/758,112
Art Unit 1792

Attorney Docket No. 0630-1935P
Reply to Office Action dated May 30, 2008
Page 21

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner enter the claim amendments for reasons stated above, reconsider all presently outstanding rejections, and that the rejections be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Robert J. Webster, Registration No. 46,472, at (703) 205-8000, in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.


Dated: **SEP 30 2008**

Respectfully submitted,

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JTE/RJW:mmm:jmc:slb